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LOUIS PASTEUR.

The Influence of a Chemist on the Medical Profession.

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The medical profession has been accused of being blind to its errors; content with its own failures, and unwilling to admit the light when the source was outside of its own ranks. And, in many instances refused to recognize the great discoveries even when made by one of its own members. Unfortunately, this has been too often true. However, for the most part this accusation is based upon a misunderstanding, for the physician deals with things too precious and sacred to be used for experiment and while he has been slow in accepting some undoubted facts, by insisting upon adequate proof, he has refused to accept much that is wrong and injudicous and in the end prevented much suffering. In fact, the profession is indebted for much of its best practice to outside sources. Years ago, Doctor Holmes said,

"It learned from a monk how to use antimony, from a Jesuit how to cure ague, from a friar how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the eustachian tube, from a dairy maid how to prevent smallpox, and from an old market woman how to catch the itch insect. It borrowed acupuncture from the Japanese, and was taught the use of lobelia by the American savage. It stands ready today to accept anything from any theorist, from any empiric who can make out a good case for his discovery or his remedy."

Today he could have truthfully said that a physician could not practice medicine intelligently for one day without being

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indebted to a chemist for the information on which much of the practice of his art is based. This chemist whose genius has transformed our ideas of surgery, contagious diseases and bacteriology was Louis Pasteur.*

Louis Pasteur was born in France in the little town of Dole, December 27, 1822. His father was a tanner and business interests caused a removal of the family from Dole first to Marmoz, and then to Arbois where his education began. He had completed his studies in his home town when he was 16 years old and his father wished him to go to school at Besancon where he could take his baccalaureate and prepare to become a teacher, but he was pursuaded to change his plan and go to Paris. Once in Paris a longing for his home and the quiet village was so great that it was almost unendurable. His father also longed for his son. One day, after a few months stay in Paris he was called with an air of mystery to a nearby restaurant and there sitting at a table he beheld his father. "I have come to fetch you," he said, and no other explanations were necessary. After spending another year at school at Arbois and taking all of the prizes offered, he decided to go to Besancon, as originally planned, and to study for the examinations of the Ecole Normale. In 1841 he entered a private school in Paris where he was made a student assistant and received a monthly stipend of 24 francs. He remained here for two years, and his letters to his father show his great industry and desire to make the most of his opportunities. He was full of affection and willing to share even his small salary with his two sisters, in order to provide some advantages of education for them. He passed his examinations for the Ecole Normale in 1842 and entered in 1843. From this time on, the development of this wonderful man is like the unfolding of a story of magic.

His interest and observations led him from one problem to another, and his wonderful industry and intuition illuminated every subject he touched. His first article was entitled, "Researches Into the Saturation Capacity of Arsenous Acid. A Study of the Arsenites of Potash, Soda and Ammonia." A small thing gave him his first impulse toward the investigations which later led him into the studies which have made him the master scientist in the world of living ferments. In 1770 a Swedish chemist named Scheele discovered tartaric acid. In 1820 in the encrustations in wine barrels an Alsation manufacturer while preparing

*These facts of Pasteur's life presented in this paper were obtained from "The Life of Pasteur," by Rene Vallery-Radot, translated by Mrs. R. G. Deuonshire, and "Louis Pasteur, His Life and Labors," by his son-in-law, translated by Lady Claude Hamilton.

tartaric acid in his factory accidently produced a peculiar acid which he was unable to make again. Berzelius studied some of this and proposed the name paratartaric acid for it. The salts of the two acids seemed to be of the similar crystalline form, of the same number of atoms, and identical in every respect, but when dissolved the tartrate rotated a plane of polarized light, while the paratartrate did not change it. These substances had been most carefully studied by Metcherlich and La Provostay, famous chemists in their day. Pasteur became interested in crystalography and began to study the crystals of these two salts. He saw that they had little facets, and that they were hemihedral in shape. When he examined the crystals, he discovered that there were two kinds, one with facets turned to the left and the other turned to the right. He carefully picked out the two kinds and dissolved them separately. He found that one solution turned the plane of polarized light to the right the other to the left, and that a solution of an equal number of each kind did not effect it. His paper entitled, "Researches on the Relations Which May exist Between Crystalline Form, Chemical Composition, and the Direction of Rotatory Power." was reported at the Academie des Sciences by the old chemist Biot. While studying these acids and their salts and attempting to make them artificially he noticed accidently that the dextrotartaric acid underwent fermentation. Finally, he scattered some of the spores of the common green mold (Penicillium glau-

FIG. I.

Crystals of a tartrate and a partartrate. Taken from the cover of "The Journal of Infectious Diseases."

*These crystals represent substances with the same general chemical properties. Solutions, however, rotate the plane of polarized light to the right and left. Only the solution or that part of the solution rotating it to the right is capable of nourishing mold or bacteria. Emil Fischer has called attention to that fact that eerzynes seem to attach only organic bodies rotating the plane of light to the right and compared the complicated formula of the two to a lock and a key. So far investigation has shown no exceptions to this rule. Carried to its logical conclusion we may state that the compli cated organic constituents of our living cells are dextro-rotary and that a man might starve surrounded by bodies of the same chemical composition as lies present food if they were all laevulo-rotary. As a matter of fact our food is usually a mixture of equal quantities of dextro-rotary and laeverlo-rotary solutions of such mixtures do not rotate the plane of polarization. As foods only the dextro-rotary part is used; man in this regard is the same position as the ordinary green mold which Pasteur observed.

cum) on the surface of ashes and paratartaric acid and the lævulo tartaric acid appeared; showing that only the dextrotartaric acid was consumed by the mold.*

In 1854 he was made dean of the new Faculte des Sciences at Lille which placed him in a region where the manufacture of alcohol from beet roots was a large industry. In his inaugural speech he uttered the sentence which is so applicable to the experiences of his own life:

"In the fields of observations chance favors only the mind that is prepared."

His thirst for research took the nearest available material, and he began to study alcoholic fermentation, and by aid of the microscope he observed the various types of globules to be found in fermenting liquids. From these studies he reached the following conclusions in regard to alcoholic fermentation: "When the fermentation was healthy the globules were round; elongated when alteration began; and quite long when lactic acid appeared."

In order to appreciate these observations it must be remembered that at this time the ideas of Berzelius and Leibig on fermentation dominated the scientific world. Both of these authorities taught that liquids capable of fermenting contained a peculiar energy transmitted by contact of the molecules with one another and brought about fermentation in this way. Spontaneous generation of living matter was universally believed as a fact. In the sixteenth century, Van Helmont gave a formula for creating mice. If some soiled linen and cheese were put together in a receptacle mice would shortly appear spontaneously. Maggots were supposed to develop in meat, without the necessity of parents. An Italian, Francesco Redi placed some gauze over the meat and proved that flies laid the eggs which developed into the maggots. With the invention of the microscope the problem had simply been pushed further back to the extremely small forms of life. Pasteur became interested in these problems but actual proof seemed so difficult and the discussion was so heated and intense that his old friend Biot advised him to have nothing to do with it.

With these false ideas prevailing the man who hoped to find the truth would be compelled to draw his own conclusions from his own observations. The only accurate observation that had been made in regard to fermentation had been recorded by a physician named Cagniard Lateur in 1836, who while studying the ferment of beer called yeast, saw that it was composed of little

cells capable of reproduction by budding. Pasteur believed in experiment and in testing every opinion. He believed that these bodies that were always present in alcoholic fermentation were the cause of it. He also believed that the question of spontaneous generation was linked with it and that the truth could be found by experiment. He invented little vessels with long curved necks which could be heated and hermetically sealed. Putressible liquids introduced in these kept indefinitely and after a long period the curved necks could be broken when air would enter and the liquid would undergo the changes characteristic of fermentation. He found that air filtered through cotton wool which had been heated was unable to cause the growth, thus proving that the germs of the organisms causing fermentation came from the air. He went to the high Alps carrying his precious bottles in order to test the freedom of the air in these isolated regions from bacteria. He opened them there, and obtained fewer cultures and proved that the higher the altitude the fewer the germs. He repeated and modified his experiments until he was absolutely convinced of the truth of his conclusions. In a communication to the Academy on March 5th, 1860, the following results were reported: "It seems to me that it can be affirmed that the dusts suspended in atmospheric air are the exclusive origin; and necessary conditions of life in infusions." A correspondent in the La Presse, 1860, wrote: "I am afraid that the experiments you quote M. Pasteur will turn against you. The world into which you wish to take us is really too fantastic." But experience since has proved the absolute correctness of his views, both as regard the cause of fermentation, and that the air teems with germs of life and that spontaneous generation does not exist. On account of this work he was made a member of the Academie des Sciences December 8th, 1862.

His next investigation led to his study of the silk worm. During the reign of Louis Phillipe, France produced in one year 2,000,000 kilograms of cocoons valued at 100,000,000 francs. And the mulberry tree was spoken of as "The Tree of Gold." Suddenly this great industry was threatened and fell away to almost nothing. A disease known as "pebrine" (a patois word meaning pepper) appeared. The worms became sluggish, small black spots appeared and then they died. By 1864 it had spread to all the silk producing countries of the world except to Japan. Prosperous communities of France had become poor and the "Golden Tree" no longer bore its fruit. In June, 1865, Pasteur was sent by the minister of agriculture to study this question, and the inhabi-

tants were much disappointed that the government had sent only a chemist to help them. With his characteristic zeal Pasteur started to study the cause, and soon found that the bodies of all diseased worms and moths contained microscopic organisms. In view of this fact, he eventually recommended that a thorough cleaning and the destruction of all infectious material, and a collection of new seed, as the eggs were called, only from moths that were proven healthy by a microscopical examination. He planned his series of experiments to test the truth of these conclusions. All of the worms remained healthy except one series, which nearly all died, but even after a careful examination he was unable to find the microscopical bodies he had associated with "pebrine." The intestinal tract was, however, filled with vibrois. This was a second disease known as "flachery." He was soon able to prove that this was caused by improper food ,and that hygienec measures alone would control this disease. By June, 1867 all difficu ties were solved, and it took only the practical application of his principles to restore this great industry to France. But even with the distinct precautions to be observed definitely known and outlined it took some years to convince the silk growers of its great usefulness. Pasteur spent another year on a large estate belonging to a relative of the Emperor where his experiments were repeated on a very large scale proving beyond doubt the great commercial value of his observations. Today the existence of the silk industry of France or even of the world is dependent upon these discoveries.

His next field of investigation was into the diseases of wine. Good wine instead of ripening and improving its flavor with age turned to vinegar and this without apparent cause. Pasteur found that in these diseased wines a different microscopical plant was present than in those whose keeping qualities were satisfactory.

He showed by his experiments that heating the wine to a certain point killed these organisms, and oxidation took place rapidly instead of slowly as in the old process of ripening. This was the first attempt at "Pasteurization," and was tried successfully on a large scale by the French Navy.

On October 19th, 1868 he suffered from a stroke of paralysis and for weeks he was not expected to recover. The Franco-Prussian war occured shortly afterward, and he felt all the humiliation of an extreme patriot and his vengeance took a unique form. In order to build up the brewing industry in France and possibly interfere with this great German industry, he determined to study the production of beer. In persuing this investigation

he visited England and he was much impressed by the extreme practicalness of the English, each going about his own business and intent on his own profit. The results of his vengeance show that today Germany and England have profited more by his suggestions than the France he sought to serve.

In the meanwhile, Pasteur was thinking of disease. The comparison between sick silk worm and a higher animal or even man was impossible. Medicine was a practice controlled by unstable theories, and not the exact knowledge obtained by laboratory experiments as it is today. "A pinprick is a door open to death," said Velpeau. Fatal results followed almost every operation. Pyemia, gangrene, erysipelas, and septicæmia were words in every hospital. Contaminated air was supposed to be the cause of the trouble and in order to test this a charitable organization hired a house in a salubrious part of Paris. The abdomen of ten patients were opened in this house. Ten deaths resulted, and the neighbors referred to it as the house of death.

Surgery was properly considered a serious profession. In the middle ages, hot oil and cauteries were applied to cut surfaces, but this had been abandoned and dressings of charpie, substituted. Charpie was made by tearing up old bedding and linen. In the Paris Maternity hospital from April 1st to May 10th, 1856, sixty four fatalities out of 374 confinements occurred. Finally in 1866, twenty-eight deaths occurred in 103 cases and the place was closed. A worker in Pasteur's laboratory had some furnucles. He succeeded in growing little rounded specks from the pus and obtained the same from still another case, and finally the same from a little girl suffering from osteomyelitis, then he turned his attention to septacemia and visited hospitals and autopsy rooms. During the discussion of the frightful mortality in the maternity hospital in the Academy of Medicine various explanations were advanced. A weighty colleague was eloquently talking on the cause of septicæmia and advancing ideas not based on accurate observation or experience. He was interrupted by Pasteur, who said, "None of these things cause the epidemic; it is the nursing and medical staff who carry the microbe from an infected woman to a healthy one." The orator replied that he feared the microbe would never be found. Pasteur went to the board and drawing a diagram of the chain like organism said, *"There, that is what it is like."*

Pasteur visited the hospitals and we can imagine the surprise and almost stupefaction of the probably pompous and popular practitioners of medicine when a chemist from his laboratory criticised their methods and appliances, and in fact, all

of their procedures. Even in the present it is not unusual to hear the information which comes from a laboratory derided because the investigator was not entitled to write the degree Doctor of Medicine after his name, as though in some way, a medical diploma worked a sort of transformation which converted truth when once discovered into something more valuable. Chassagannac, a well known surgeon of his time referred to "laboratory surgery which has destroyed very many animals and saved few human beings." Another medical critic in combatting Pasteurs ideas in regard to infection, said: "M Pasteur's excuse is that he is a chemist who has tried, out of a wish to be useful to reform medicine, to which he is a complete stranger."

But not all were so impervious to obvious results of laboratory experiments. A young surgeon Alphonso Guerin, appalled by the terrible mortality in surgery, first tried to apply Pasteurs ideas in France. He washed the cut surfaces with solutions of carbolic acid and applied layers of cotton wool that had been heated and succeeded in saving nineteen cases out of thirty-four amputations. On February 13, 1874, Pasteur received a letter from Joseph Lister stating his success upon following Pasteurs ideas in Edinborough. Strangely enough Listers methods and procedure had been severely criticised in England, and by men whose results could not be compared with his.

In 1874 the government voted Pasteur an annual pension of 12,000 francs for life, the salary of a Sorbonne Professor, in recognition of his work in restoring the silkworm industry, and it could amply afford to pay this sum as during the twenty years preceding the application of his principles, the loss was estimated to have been 1,500,000,000 francs.

Anthrax or Splenic Fever was causing serious loss to the agricultural population of France. Herds of sheep and cattle grazing on rich pastures at this time would sicken and die. In one district alone, the loss amounted to 20,000,000 francs annually. Various cures were suggested, and causes proposed. The German Bacteriologist Koch, had succeeded in growing little rods in a drop of aqueous humor taken from the eye of an ox, and inoculated with the blood of a sheep dead of the disease. In 1877 Pasteur began his work on anthrax. He succeeded in growing the bacteria of the disease in his little tubes, using urine as a culture media. Strangely enough his experiments with this disease were complicated with that of a second as in his experiments with the silk worm. The blood of an animal dead 24 hours, teems with a vibrio capable of causing septicæmia. As this is

a pale organism it had been overlooked. He succeeded, however, in proving the difference in the organisms and he separated the two by growing mixed cultures in contact with air or carbonic acid gas, as the anthrax was ærobic, and the vibrio anaerobic. He inoculated some hens with anthrax and found it was impossible to give them the disease. As the normal temperature of the hen is 42 degree C. and that of a sheep only 38 C, he thought that the difference in the temperature of the animal might influence it, so he immersed the feet of some hens in water, and brought their temperature down to 38 degrees, and found that under such circumstances it was possible to inoculate them with the disease. A hen which showed extreme illness would promptly recover when removed to a warm oven but if the temperature was kept lowered the hen died.

In carrying out further experiments suggested by the influence of temperature, it was found that anthrax grown at 43 degrees Centigrade developed no spores, and that the culture was weakened. In the meantime discussion was rife as to how the disease was spread . Why should it recur in a certain pasture on almost the same day of the month, year after year, if cattle and sheep were kept there? In crossing a pasture Pasteur noticed little pellets of earth brought to the surface by earthworms. Darwin's book on "Vegetable Mold and Earth Worms," had appeared at about this time and showed what an enormous amount of work such an apparently humble animal performed. It suggested to Pasteur the possibility that the earthworms brought the spores to the surface. Upon making cultures from some of their casts which he had obtained above the grave of an animal buried the summer before he was able to grow anthrax in pure culture. In the meanwhile he had experimented upon sheep in the laboratory and found he could vaccinate them with attenuated cultures so that they would resist the most active culture when injected into them. His results were published, but were generally disbelieved by veternarians and agricultural writers. Finally, in order to prove the question beyond a doubt, the Agricultural Society placed sixty sheep at his disposal at a fair that took place at Melun in June 1881, for a theatrical proof of his results. A vast concourse of people assembled to see the experiments. Twenty-five sheep were vaccinated and at the end of the period for immunity to occur, fifty sheep including the 25 vaccinated ones and 25 others were inoculated with virulent anthrax, and ten were neither vaccinated or inoculated. At the end of three days they again assembled to see the result of the experiment, and in the meanwhile

Pasteur returned to Paris. The 25 vaccinated sheep all lived. The 25 not vaccinated were dead or dying. Immense enthusiasm now took the place of skepticism that had prevailed before.

The method of attenuation and vaccination used in anthrax was not the first instance in which Pasteur had used a similar method. In 1880 Pasteur undertook to study a disease known as chicken cholera. A veterinary surgeon named Morse had observed the germ of the disease in 1869. Pasteur grew it on chicken broth which he found to be the best media, and the smallest droplet of this broth injected into a hen soon proved fatal. Some cultures were left around the laboratory for several weeks. Accidently some of this old culture was used to inoculate a chicken. It became very sick, but recovered; and it was then found that even a large dose of virulent bacteria would not cause the disease. Pasteur was delighted and thought he had here a discovery that would possibly prevent all diseases depending on micro-organisms. He attributed this attenuation to the action of the oxygen of the air, and how he was influenced by this idea subsequently will be seen in his studies on rabies. Pasteur was not so successful in all the diseases he studied. He attempted to study cholera and went to Egypt in the midst of the epidemic where he lost by death from cholera one of his favorite assistants, Dr. Thullier. He also attempted to study yellow fever, but the lack of material prevented his doing that.

His last and greatest triumph, however, was obtained by his study of rabies. This disease was known in antiquity. One of Homer's warriors calls Hector a mad dog. Aristotle mentions it and its contagiousness. Celsus described and recommended a hot iron for cauterization. As a remedy Pliny recommended the liver of a mad dog, and Galen a powder made of crayfish eyes. Later the shrine of St. Hubert in Belgium became noted and in Pasteurs time, sea bathing was the popular remedy. When Pasteur was a child a mad wolf bit many people in his home town, and eight persons died of rabies. In fact the great mortality following bites of mad wolves and dogs, and the horrible death made it especially desirable to find a cure or preventive. All attempts at growing the organism on artificial media failed; but Pasteur finally succeeded in transferring the disease from one animal to another by inoculating bits of the brain through the skull of a healthy dog. When a dog is inoculated in this way the disease appears in fourteen days and death appears at twenty. By inoculating a large series of rabbits he finally found that it appeared with almost clocklike precision on the seventh day. If

the brains and spinal cords are removed antiseptically and dried at 23 degrees C. they lose all virulence on the fourteenth day. Pasteur succeeded in rendering a dog immune by inoculating it with bits of rabbit cords beginning with one without virulence, and gradually approaching the virulent type. He was still seeking a cure, and found that in fourteen days, a much shorter time than it usually takes the disease to develop, he could cause immunity and prevent the disease. He repeated this experiment on many dogs, and found that it always worked. On July the 6th, 1885 a child nine years old going to school was badly bitten by a mad dog. The physician knowing of Pasteur's work sent the little boy and his mother to Paris. Pasteur was sure of his laboratory experiments, but he could not decide to use his method on a human being, so he went to talk it over with his friend the Surgeon Vulpian. Together they carefully went over his experiments and their results. In conclusion Vulpian said that the child faced certain death without it, and that the results justified its trial. So, the child was given an injection of a piece of cord of a rabbit that had been dried for fourteen days, and for every 244 hours an injection of a piece of cord that had been dried one day less. Pasteur could hardly eat or sleep while this was going on, but the child appeared well and at the end of two months when the child lived it was considered safe and subsequent events showed that this conclusion was justified. After five years of study, rabies was conquered. The most virulent type could be successfully prevented if the treatment was inaugerated soon enough. A ward was now provided for the treatment of such cases. On March the 1st, 1886, 350 persons had been treated with only one death, whereas a mortality before that had been forty per cent of cases bitten by dogs, taking all bites together, and 82 per cent in wolf bites. In March, 1886 nineteen Russians who were bitten by a rabid wolf were brought to Paris for treatment. Pasteur's name was the only French word they kenw. A fortnight had passed since they were bitten, and Pasteur was alarmed for their safety. Two of them died, but the rest were saved.

Pasteur was constantly criticised, and in his later days all sorts of persons attempted to argue with him. One day a physician succeeded in reaching him and after delivering a long talk on morbid spontaneity, Pasteur replied: "Sir, your language is not very intelligible to me. I am not a physician and do not desire to be one." However, he lived to see his discoveries accepted throughout the scientific world and to receive the profound thanks of the members of the profession which had so often met his exact

knowledge based on experiments with sophisty. On June 13, 1895, he visited the Institute he had founded, for the last time. He died September 28, 1895.

Pasteur discovered many practical things in the treatment of disease but the results of his life of discovery is best summed up in the words of Paul Burke before the Chamber of Deputies. He divided them into three classes; all of them great discoveries.

"First, each fermentation produced by the development of a special microbe. Second, each infectious disease (at least those studied by Pasteur and his immediate followers) is produced by the development within the animal of a special organism. Third, the microbe of an infectious disease cultivated under certain detrimental conditions is attenuated in its pathogenic activity; from a virus it has become a vaccine."

The practical results of his work can never be estimated. If the true measure of success is the service one renders to his fellowmen, then Pasteur was one of the greatest men that ever lived; for every person living in civilized communities is indebted to him because life is rendered easier and safer by the discoveries he made. Measured in terms of money, (which is the only standard the average man of modern times can understand) his success was far greater than our modern kings of finance. According to Huxly "Pasteur's discoveries alone would suffice to cover the war indemnity of one billion dollars paid by France to Germany in 1871." The wealth created as the result of his work alone, not including the results of investigations started by him, is more than sufficient to pay for all the laboratories, equipment, salaries and libraries that have been used in research work in Biological Sciences in the entire world.

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IMPETIGO.

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Read Before the Greenwood County Medical Society, April 5, 1910.

In the early days of dermatology the formation in the skin was regarded as a special disease to which the term impetigo was applied. From this loose use, Tilbury Fox rescued the term when he applied it to the well known symptom complex which he called impetigo contagiosa.

Since Fox's description of impetigo contagiosa there has been considerable diversity of opinion as to whether this was a specific disease or a condition which presented no essential differ-

ence from superficial pustular lesions in the skin resulting from accidental inoculation with any of the common pus organisms.

All the various divisions of impetigo is a matter of academic refinement which cannot be justified by any essential difference in the essential forms of impetigo; or by any clinical differences which serve to distinguish them. As Brockhart has shown the condition which we describe as impetigo can be produced by the common streptococcus and stapylococcus, and as for special varieties of impetigo such as impetigo figurata, they simply refer to occasional peculiarities of configurations which are not essential characteristics. The different forms of impetigo then may be regarded as a part of one clinical condition and the term may be used quite as well without qualifications to describe the pustular and ves cular lesions which are produced in the skin by infection with common pus organisms.

The lesions of impetigo may be at first vesicular which later become pustular or they may be pustular from the start. The vesicles or pustules arise from an inflammatory base, are rather large, are usually rather flaccid but may be tense, and soon after their development they beg n to flatten down with the formation of a crust at the center while they spread somewhat at the periphery. In the course of a few days the lesions become covered with yel owish or yel owish brown crusts or rupture and leave an abraded red surface from which there is an exudation of serum and pus which dries into crusts upon the surface. The lesions heal after a few days, the crusts are thrown off and a temporary red stain is left.

The vesicles and pustules of impetigo usually increase after their appearance. In this way a single pustule may develop into a good sized bullae, perhaps tense and oval but usually soft and flaccid—this flattened down into a crust, around which, there may be a pustular border which tends to creep and still further enlarge the lesion. In this way individual oval lesions the size of the finger nail or larger may be formed. The large bullæ of impetigo however, may result from the confluence of adjacent lesions and are of irregular outline.

An impetigo may consist of no more than two or three discrete pustules which go through the evolution outlined above. Ordinarily the disease consists of one or more patches at different sites of inoculation. The patches are made up of groups of lesion which coalesce and form irregulr areas of pustular dermatitis of the size of a coin or larger around which discrete satelite pustules may be found. The patches are usually covered with a yellowish

or brownish crust, upon the removal of which a red weeping surface is exposed. In many cases the patches become covered with a thick dirty yellowish crust which covers the entire inflammed area so that no red areola shows and the crust looks, to use Fox's expression, as though they had been "stuck on" the surface.

Impetigo may occur wherever there is an abrasion. It occurs most frequently on those sites where abrasions are commonest and exposure to infection greatest. It is therefore most frequent on the face, especially around the nostrils and mouth. A typical impetigo is the pustular infection that frequently occurs as the result of infection of fever blisters. Because of its production by the scratching that head lice induces, it is very common on the scalp. The eruption may, as already said, consist of a few pustules or it may spread almost completely over the head and face and occur upon the hands and feet and to a certain extent over the body generally.

The course of the disease is indefinite. A single patch of the eruption will disappear of itself in seven to ten days if no inoculation occurs, but the disease will continue as long as inoculations continue. It frequently occurs for weeks and even months and becomes very extensive where its character is not recognized and proper treatment instituted.

The itching associated with the lesion is inconsiderable; that is its chief distinction from patches of eczema which becomes secondarily infected. As a rule there is no constitutional disturbance, but where the disease is very extensive there is moderate fever from absorption of toxins.

Some of the lesions of impetigo may go on to suppuration, so that we may have cases in which together with pustular lesions there is a greater or less abundance of inflammatory papular lesions. In certain cases the lesions tend to spread widely at the periphery and with extension new peripherial pustules form. Thus lesions of cresentic or circular outline will be formed, and where many such lesions occur upon the surface they coalesce and produce fantastic polycylic forms. Crocker speaks of gyrate impetigo as rare, but in my experience the tendency to circinate arrangement is not uncommon and certainly would not confuse anyone. The so-called impetigo of Brockhart, where the lesions occur around hairs, often produces primari y tense, globular yellow pustules varying in size from a minute pustule up to those as large as a pea. This form of impetigo occurs upon the hairy parts, especially upon the bearded parts of the face. A typical picture of it is the impetigo of the face which develops from infection around the hairs as the

result of shaving. According to Brockhart this form of impetigo is always due to infection with staphylococci, but even accepting that this an universal fact, Brockharts impetigo presents no essential clinical differences and no distinction of practical importance from simple impetigo.

About seventy-five (75) per cent of cases of impetigo occur in young children. It is more frequently in the poor and uncleanly, but it is not confined to any class of society. All that is required for its production is an abraded surface and the presence of pus organisms. It starts frequently in abrasions like fissures and cold sores about the mouth and nose, and it is a common sequal of parasitic diseases which cause scratching. Impetigo is auto and hitero—inoculable. It is contagious and frequently occurs in ep demics. Epidemics of impetigo are frequent y excited through the exchange of clothing and the common use of towels. It is not infrequently occurs with vaccination, as it may with any other focus of suppuration. The study of most authors have established the fact that impetigo may be produced by either the common staphylococci or streptococci. It is most frequently produced by the staphylococcus aureus. Crocker first described cocci in unruptured vesicles, and later showed that some of the cases were due to the staphylococcus aureus. We are chiefly endebted to Brockhart's investigation for the establishment of the fact that the disease has no specific organism, but in all of its forms is a manifestation of infection of the superficial layers of the skin by any of the common pus organisms.

The lesions are the result of a very superficial inflammatory process involving chiefly the epidermis and the papillary layer The pustules are formed between the horny layer and the reta. There is no ulceration of the connective tissue and no scarring follows it.

The most important practical matter in the case of impetigo is the recognition of its character. That being done the treatment is a simple matter. If one remembers that the lesions are such as may be produced by an infection of any superficial abrasion, as for example a cold sore it would seem that the recognition of the condition would be easy but the fact remains that its character frequently escapes detection. The characteristic features of the disease are that it begins with inoculation of an abraded point, its lesions are those of pustular dermatitis, and the process is so superficial that scarring does not follow the lesions.

It must be distinguished from pustular eczema, cycrosis, ulcerating syphilide, chicken pox and pemphigus. In a pustular

eczema we have a secondary infection of an early dermatitis, so that practically we have an impetigo superimposed upon an eczema. With the removal of the infection the eczema is left. If it is an eczema of local origin and the cause no longer acts the eczema may go on rapidly to a cure. If it is an eczema of internal origin, in addition to the patches of pustular eczema, other eczematous lesions which are not pustular will in all probability be found in other parts. But the distinction of pustular eczema and an impetigo is one largely of names as far as the lesions are concerned.

In cycrosis there is a pustular folliculitis deeply involving the hair follicles, in some of which the hair is loosened and the follicles distended with pus. There is a swelling corresponding to the depth of the inflammatory process. In impetigo the pustular dermatitis is upon the surface of the skin and does not involve the follicles deeply and there is no swelling.

In ulcerative syphilides with crusting there is a distruction of the connective tissue and scar formation, both of which are absent in impetigo.

In chicken pox the lesions are smaller and do not occur in patches, are bilateral and have a regular distribution. The disease pursues a regular course and is accompanied by some constitutional symptoms.

In pemphigus the bullæ occur suddenly and spontanously with almost no inflammatory areolæ, are entirely independent of abrasions and inoculations. Their contents are at first likely to be sterile, and the disease is not contagious. Most of the cases of bullæ eruptions are forms of impetigo.

Nothing is easier to treat than impetigo if its character is recognized and if the cause of the abrasions which become inoculated can readily be removed. The only cases which are troublesome after they are recognized are those which are produced by scratching, resulting from some irremovable or undiscoverable cause. The treatment of impetigo consists of cleansing the lesions of pus and dirt and the subsequent use of antiseptic applications where there is much crusting and suppuration these may be removed by copious dressings of boric acid and vaseline. Usually the surface can be cleansed more readily by thorough washing until all crusts are removed with boric acid solution or similar antiseptic solutions. After this there should be applied two or three times a day an antiseptic ointment. The ointment of ammoniated mercury 10 to 30 grains to the ounce of vaseline or cold cream is usually employed and leaves nothing to be desired. If the disease is on the scalp, lice should be looked for carefully and

destroyed and then the lesions treated as elsewhere. In extensive cases over the body antiseptic baths should be given until the lesions are cleansed and the ointment applied.

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A PECULIAR CASE OF POISONING.

E. W. BOARDMAN, M. D., Parsons, Kansas.

Read Before the Medical Association of the Southwest, San Antonio, Texas, Nov. 9, 1909.

On the evening of September 7, 1909, Mrs. R., aged 20, the mother of a boy 9 months old, inserted two of Lilly & Co., diamond shaped antiseptic tablets into the vagina after intercourse, instead of dissolving them in water and using with syringe as was her custom. These tablets contain 7.3 grains corrosive sublimate each. Within two hours she was taken with violent purging, vomiting, and vesical tenesnus, and during the night she used the syringe, washing out what remained of the tablets in the vagina.

The vomiting and diarrhoea continued the next day, but towards evening the bowels ceased acting, On the second day the gums became very sore, had a metallic taste, and the throat became fiery red, with burning extending into the stomach, which continued to reject everything. This gastro-enteritis continued, apparently affecting the entire alimentary canal.

On the fourth day she suffered from extreme dyspnoea, caused, she said, by the throat swelling shut so that she could not breathe. There was very little salivation, all the secretions of the body being dried up after the first two days. The urine was absolutely suppressed after the first night, and on the fourth day, and again on the sixth day I introduced a catheter into the bladder without finding a drop of urine.

The vaginal mucous membrane had the same fiery red and dry appearance that the oral cavity exhibited, and was swollen and sore, but not ulcerated as might have been expected. About the fifth day she began to have hiccoughs which would continue for an hour or more at a time, and which persisted more or less until her death.

Attempts were made to nourish her with milk, eggnogg, egg albumen, mutton broth and various artificial foods, but there seemed to be no assimilation, and sooner or later whatever was taken into the stomach was vomited up. High injections of normal salt solution and nutrient enemata were administered during the last few days. These merely served to irritate the rectal noucosa, and brought about a dysenteric condition.

For five days and nights not a drop of urine was excreted, then a few drops were passed, and during the last few days she urinated scantily two or three times a day, the total amount in 24 hours never exceeding 4 ℥. opaque whitish yellow, sp. gr. 1018, with a trace of albumen in it.

After the sixth day she became somewhat stupid, slept heavily at times, but was always rational when aroused. Symptoms of peritonitis developed and she became quite tympanitic. There was a carrion like odor to the alvine discharges and nearly as bad an order to the breath and vomitus. At no time did her tempera ture rise above 102 and most of the time it was about normal.

Exhaustion steadily increased in spite of all efforts to sustain her strength, and she died on the eleventh day following her deplorable mistake. An autopsy was refused.

Clinically this case was one of subacute mercurial poisoning and such remedies as were used seemed to have absolutely no effect in staying the onslaught of the terrible systemic poisoning. Only one dose of morphine was administered as she imagined it greatly aggravated her vomiting. We tried to give her iodide of potassium in small doses but she complained of it hurting her stomach very badly. Strychnia was given a few times, and such other remedies as seemed indicated.

The main purpose in presenting this case is to incite physicians to caution their patients against these deadly tablets, which have rendered incalculable service to humanity when properly used by competent surgeons and physicians, but which are more deadly than a rattlesnake or a mad-dog when misapplied. Many women are using them for the same purpose that this young woman used them, without a thought or perhaps without knowledge of their great danger. I have seen bottles of them standing upon dressers and in bath rooms, where a child might reach them, and doubtless some among my hearers can rehearse equally sad cases of poisoning among women and children.

I only hope that my relating this pitiful case, in the treatment of which the attending physician attained neither glory nor self-satisfaction, may be the means of extending a warning which may perchance save some life from a similar sacrifice.

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In examining the breast for a tumor, the points to be particularly noted are whether tenderness is present or not, whether the mass is localized or diffuse, adherent to the skin and muscles or freely movable, hard, soft, or fluctuating, and whether glandular enlargement exists.—International Journal Surgery.

THE JOURNAL
OF THE
Kansas Medical Society.

JAMES W. MAY, - - - - EDITOR.

ASSOCIATE EDITORS: J. E. SAWTELL, CHAS. S. HUFFMAN, O. P. DAVIS.

Subscription Rates: $2.00 per year, 20c single copy. Advertising rates furnished promptly on application.

The Journal was established in June, 1901, by a publication committee at Topeka. In May, 1903, Dr. G. H. Hoxie was elected editor and served four years. In January, 1904, it incorporated the Wichita Medical Journal, owned by Drs. W. H. Graves and G. K. Purvis, and the Western Medical Journal, owned by Dr. A. J. Roberts, of Ft. Scott. In March, 1908, it incorporated the Wyandotte County Medical Journal, owned by Dr. James W. May. It is now printed in Kansas City, Kansas, and appears the first of every month. Correspondence should be addressed to the editor. Editorial office, 501-2 Husted Bldg., Kansas City, Kans.

LIST OF OFFICERS.—President, O. P. Davis, Topeka; 1st Vice-President M. F. Jarrett, Ft. Scott; 2nd Vice-President, J. T. Axtell, Newton; 3rd Vice-President, G. W. Jones, Lawrence; Secretary, Chas. S. Huffman, Columbus; Treasurer, L. H. Munn, Topeka; Librarian, S. G. Stewart, Topeka.

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EDITORIAL

OUR PRESIDENT.

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Born in 1869 in Indiana. Has resided in the states of Missouri and Kansas since the year following.

Early education in the public schools. Attended Drury College, Springfield, Mo., for four years.

Attended University of Kansas, and received degree of A. B. in 1892. Was an instructor at the University in 1893-94, and did post-graduate work.

Teacher of Chemistry and Biology in Topeka High School 1892-93.

Medical Education , M. D., University Medical College Kansas City, Mo., 1896; M. D., Belleview, Hospital Medical College, New York City, 1897.

Professor of Principles and Practice of Medicine in Kansas Medical College, Topeka, for several years.

Married in 1900 to Miss Mabel Glendering of Topeka, have two children.

President of Shawnee County Medical Society in 1906.

President of North East District Medical Society in 1909-10.

President of Staff of Bethesda Hospital, Topeka.

Member of Council of Kansas Medical Society for last three years.

Salina, Kansas, April 15, 1910.

Journal Kansas Medical Society:

The Golden Belt Medical Society wishes to again call your attention to the following resolutions adopted at its July meeting last year:

"Whereas, The Topeka Capital and certain other leading newspapers in this section of the country, have from time to time displayed in various forms, advertisements of one Carson of Temple of Health fame of Kansas City, Missouri, and

Whereas, The methods of said Carson are known to be fraudulent and prejudicial to the best interest of the state, therefore, be it

Resolved, By the Golden Belt Medical Society in session regularly assembled that it is the sense of this Society that such advertising is fraudulent and calculated to mislead the public, and that we, as physicians, feel it is our duty. to discourage the circulation of publications carrying advertisements of such character, and it is further

Resolved, That a copy of these resolutions be spread on the minutes and that a copy be sent to each physician in the state of Kansas and to such papers as carry such advertisements, and that a copy be sent to the State Medical Journal for publication."

L. O. NORDSTROM, Sec'y.

The above letter has been sent to all physicians of the state. That this action is commendatory there is no doubt, and we should all do our utmost to help it along. There should be some concerted action taken against quack and nostrum advertising and this will be a good beginning. We have lain dormant too long and we should awaken to the necessity of protecting the laity since they refuse to protect themselves.

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THE TOPEKA MEETING.

Topeka did herself proud in the entertainment of the society, and the physicians of Shawnee County deserve unstinted praise for the efforts they put forth. In the first place Topeka has ample hotel accomodations and her railroad facilities are all that could be desired and with this as a basis to work upon good results can always be obtained. The place of meeting for the scientific program, Representative Hall, was ideal in that it was as noiseless as it is possible for a hall to be The accoustic properties do not seem to be all that could be desired for some of the essayists had trouble in being heard in the rear of the hall. However when one put a little force to his voice it could be plainly heard in all parts of the room.

The papers read were good, showing careful preparation, the only criticism, however, would be that some were too long. Not because they were not of scientific interest, but because of the large program, and insufficient time to get through with it. On this account the discussions had in many instances to be curtailed and valuable papers were passed by with but little discussion. The by-laws expressly provide that a paper shall not consume more than twenty minutes, and this should be adhered to. However, when a paper is of exceptional scientific interest the society is a ways ready to vote to have a paper finished even if it does exceed the time limit.

Having the Council and House of Delegates meet at 9 o'clock on the first day of the session is a wise move, as it obviates the necessity of spending a large part of a day in getting to the meeting place when the traveling can be done at night. The council and delegates seemed to appreciate this feature. The time of the Council and House of Delegates was not taken up with needless discussions and the business part of the session was much expedited on this account. The council and delegates voted to hereafter allow the council to select a place for the annual meeting. A committee was appointed to confer with the editor of the Topeka Capitol in reference to quack advertising, which it has been carrying. The committee wi'l report later.

The entertainment provided by the Shawnee County Society, was as complete as time would allow to be fulfilled. On Wednesday the ladies were entertained by the Topeka Federation of Women's Clubs. In the evening there was a reception at the Governor's Mansion. Owing to a previous engagement the Governor had to be out of the city, and Mrs. Stubbs did the honor charmingly. Thursday noon a men's luncheon was tendered the visiting physicians at the Commercial Club. Dr. W. E. McVey presided and short talks were made by Drs. E. S. Pettyjohn, C. C. Goddard, O. J. Furst and J. W. May. The visiting ladies were tendered at a luncheon Thursday noon at the Throop hotel, and in the afternoon a reception. An automobile ride which had been planned had to be postponed on account of the rain. In the evening there was a theatre party for all the guests which was thoroughly enjoyed by all. All in al the Topeka doctors did themselves proud and we bow our acknowledgements.

NOTES OF THE TOPEKA MEETING.

The proceedings of the last meeting will appear in full in the June issue of the Journal.

The meeting next year will be he d at Kansas City the Council accepted the invitation at its meeting on Thursday afternoon.

Two of our "old timers" who always attend the sessions together are Drs. Fisher and Vermillion of Lyons. They appear to be inseperable.

Many more of the physicians were accompanied by their wives than there has been heretofore. There was much more entertainment provided for them.

None of the vice-presidents attended the meeting and when the president had to absent himself with the Council and House of Delegates, Dr. Shannon of Hiawatha presided.

The hard rain on Thursday did not dampen the enthusiasm of the visitors though it is reported that our Treasurer was much put out on account of a postponement of the ball game.

The address of welcome was delivered Wednesday morning at 10 o'clock, by the Hon. W. R. Stubbs, Governor of Kansas, who in a few well chosen words pointed out the great opportunities the physicians had to do good and extended to them the freedom of the city. James W. May responded.

The officers elected were: President, O. P. Davis, Topeka; Vice Presidents, M. F. Jarrett, Fort Scott, J. T. Axtell, Newton, G. W. Jones, Lawrence; Treasurer, L. H. Munn, Topeka. Dr. W. E. McVey was elected to fill the vacancy caused by the election of O. P. Davis to the Presidency. All the Councillors whose terms expired were re-elected.

There were not as many exhibitors as has been the custom. This was probably due to the fact that manufacturers are doing less of this form of advertising. Horlick's Malted Milk Co., Hettinger Bros., Physicians Supply Co. Jerman & Co., of Topeka, C. V. Mosby and one or two others were all the exhibitors.

The hit of the social meetings was made by Dr. C. F. Menninger of Topeka, who was one of the active members of the entertainment committee. At the reception Wednesday evening, he carried off the honors with his charming manner and perfect presence. He had a little speech for all of the guests which was appreciated by all present except perhaps the jealous others who stood in the receiving line.

The Alumni of the College of Physician's and Surgeons (which went to make the Medical Department of the Kansas University,) had a dinner and meeting at the National Hotel, Thursday evening at 6 o'clock. Officers elected were: President, G. M. Anderson, Bever y; Vice-President, C. D. Vermillion, Tescott; Secretary, J. A. Fulton, Kansas City Next year a re-union is being planned to take place during the meeting of the society If other schools would plan a re-union of this sort, the attendance at the state society would be largely increased.

SOCIETY NOTES.

The Missouri State Medical Association held their annual meeting at Hannibal, May 3-4-5.

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The American Medical Association meets at St. Louis, June 7-8-9-10. This should be well attended by the physicians of Kansas on account of its close proximity. The meeting promises to be one of the best both scientificially and socially.

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The American Proctologic Society will meet at St. Louis, at the Planter's Hotel, June 6-7. The president is, Dr. Dwight H. Murray of Syracuse, New York, and the secretary Dr. Lewis H. Adler, Jr., of Philadelphia.

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The Elk County Medical Society met at Howard, Kansas, March 30, 1910, at Dr. DePew's office for the purpose of election of officers for the ensuing pear and other business to the interest of the society. The present officers were voted to remain in their positions until the December meeting when officers will be elected as per provision made in regular form of elections in county societies throughout the state.

Dr. Hays presented an interesting paper on Vital Statistics.

Dr. Arch D. Jones, Wichita, Kansas, Councilor of this dis-

trict, was present and gave to the society some very interesting information pertaining to the workings of county societies.

Members present: Dr. Beesley, Moline; Dr. Day, Longton; Drs. Costello, Hays, Grimmell and DePew of Howard; Dr. Arch D. Jones, district councillor, Wichita, Kansas.

F. L. DEPEW, Sec'y.

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The Riley County Medical Society met in regular session on March 15, 1910, at 8 p. m., with the president, Dr. J. D. Colt in the chair.

A paper was presented by Dr. A. G. Koch on., "Thyroid Secretory Diseases."

A paper was presented by Dr. C. F. Little on, "Missed Labour."

The subjects were discussed by the members present.

B. BELLE LITTLE, Sec'y.

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The Republic County Medical Society met at Dr. Wm. Kamp's office in Belleville, in the evening of March 24, 1910.

There were sixteen members present of a total membership of seventeen. Papers were read by Dr. Wm. Kamp of Belleville, and Dr. J. C. Sherrard of Norway.

These were very interesting and were freely discussed by the members present.

A case of a misunderstanding of what constitutes medical ethics was brought before the society for consideration and a spirited discussion took place, which will undoubtedly be of benefit to all.

J. C. DECKER, M. D., Sec'y.

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The second district (south-east Kansas) Medical Society held its semi-annual meeting in the Stillwell Hotel, Pittsburg, April 12, 1910. Over fifty doctors registered during the afternoon session, and many were present at night who failed to register.

The visiting doctors were royally entertained, and all appeared to enjoy the automobile ride and the banquet, as well as the program.

At the election the following officers were chosen: President, L. D. Johnson, Chanute; Secretary, O. S. Hubbard, Parsons; Treasurer, M. F. Jarrett, Fort Scott.

The program follows: Diagnosis of Diseases of the Nervous System. O. S. Hubbard, Parsons; Hyperemia, N. C. Speer, Osawatomie; Formalin and its Application in Special Practice, T. R. Edwards, Chanute; Mouth Breathing, H. B. Caffey, Pittsburg;

Angina Pectoris, W. E. McVey, Topeka; Some Thoughts on Catarrhal Pneumonia, W. G. Norman, Cherryvale; Some Nervous Phenomena Arising from Pelvic Abnormalities, T. W. Shelton, Independence; Diagnosis Resource, Frank J. Hall, Kansas City, Mo.

The society voted to hold its next meeting in Chanute.

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Eureka, Kansas, April 8 1910.

The Second Quarterly meeting of the Greenwood County Society met at the home of Dr. H. W. Manning, April 8, and after a banquet the following program was carried out: Papers: Impetigo, by Dr. H. W. Manning; Asthma, Dr. F. S. McDonald; Rheumatism, Dr. J. Dillon. The next regular meeting will be July 5, at which time the plans for a public meeting in October will be discussed and a program arranged.

Greenwood Society is sure a live one tho' all its membership will not attend.

DR. H. W. MANNING, Sec'y.

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The Labette County Society met last night, April 27th, in the parlor of the Matthewson Hotel, Parsons.

Fourteen doctors were present and an excellent program rendered. Dr. N. C. Morrow of Altamont reported a Casearian section recently performed on a deformed woman with a flat pelvis in which the mother made a good recovery, and the infant though rather frail bids fair to become strong.

Dr. G. W. Maser of Parsons reported a case and demonstrated a specimen obtained by the enucleation of an eye which had been injured some 50 years ago and had recently given trouble and threatened sympathetic involvement of the other eye. The vitreous humor had been replaced by a mass of stony hardness, probably due to lime salts. The doctor stated that such cases are very unusual.

Dr. Emma Hill of Oswego read a paper on pelvic inflammations, giving special attention to their etiology and prognosis, and offering some suggestions on prophylaxis.

Dr. Morrow conducted a quiz on the anatomy and diseases of the pelvis.

One new member was elected and one new application received.

The society placed itself on record as favoring the Department of Health as proposed by the bill introduced by Senator Owen of Oklahoma.

Salina, Kansas, April 12, 1910.

To Kansas Medical Journal:

The Golden Belt Medical Society held its annual meeting in the Library Building here on Thursday April 7th, The meeting was called to order in the afternoon by the President Dr. W. S. Yates, of Junction City. The afternoon session was devoted exclusively to business after which the society repaired to the National Hotel where it was entertained at dinner by the Salina physicians.

Preceding the scientific program the following officers were elected: President Dr. O. D. Walker, Salina; First Vice President, Dr. P. B. Witmer, Abilene; second vice-president, Dr. J. D. Colt, Manhattan; secretary, Dr. L. O. Nordstrom, Salina; treasurer, Dr. W. S. Harvey, Salina.

The following program was given: The annual address "Fellowship relation of One Physician to Another and to the Public," Dr. W. S. Yates, the retiring president.

Symposium on Rheumatism: "Etiology" Dr. W. S. Harvey, Salina; "Non-Medical Treatment," Dr. O. R. Brittain, Salina; "Acute Endo-Carditis," Dr. E. L. Simonton, Wamego; "Control of Hemorrhage," Dr. W. E. Fowler, Brookville. The papers were fully discussed. Manhattan was chosen for the next meeting place.

L. O. NORDSTROM, Sec'y.

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NEWS NOTES

Kansas has one physician to every 642 persons.

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Miss Jessie Mae Smith of Groveland and Dr. Charles Edward Fisher of Lyons were recently united in marriage.

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The American Medical Editors Association will hold their annual meeting at the Planters Hotel, St. Louis, June 6-4.

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Dr. C. A. Reinemund of Junction City will leave June 14th for Europe to spend 6 months or more in Vienna and Berlin studying.

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Dr. C. S. Kenney has removed from Norcatur to Norton. He took the place of E. L. Willson. Dr. O. M. Cassell of Bird City has taken Dr. Kenneys place at Norcatur.

Dr. Walter C. Klein, assistant visiting physician an exinterne of St. Joseph's Hospital of Kansas City, Mo., a graduate of the Kansas University is now located in general practice at Phoenix, Arizona, where he will be glad to see any of his old friends.

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The Kingman County Medical Society held their annual meeting March 10th and elected the following officers: President, Dr. A. C. Johnson, Vice-President, Dr. H. E. Haskins, Secretary, Dr. J. S. Caldwell, Treasurer, Dr. C. W. Longenecker.

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Antituberculosis Society at Topeka.—The Topeka Antituberculosis Society, with A. A. Godard as president, was organized April 13. A constitution and by-laws were adopted, and addresses were made by D. M. Fisk, of Washburn College and Mr. Deacon, of the State Board of Health.

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There should be a large attendance from Kansas at the Sixty-First Annual American Medica Association Meeting, June 7-10 at St. Louis. The nearness of the meeting place, combined with the low railroad rates should be an inducement that none can afford to turn down. The May 7th issue of the A. M. A. Journal gives an elaborate announcement of the meeting.

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Public Health Meeting.—At a public health meeting at Wellington, under the auspices of the Sumner County Medical Society, Dr. Samuel J. Crumbine, Topeka, secretary of the Kansas State Board of Health, delivered an address on the subject, "Water and Soil Pollution." Other public questions were discussed by members of the society, Ex-Judge W. T. McBride and Senator George Hunter. A resolution was passed that congressmen from Kansas be requested to support the bill establishing a national bureau of public health.

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Communications.

Wichita, Kansas, April 12, 1910.

Editor Kansas Medical Journal:

Dear Sir: I want to report what I believe to be the first case of hookworm disease reported in the State of Kansas, and call the attention of the profession in general of not only this but all northern states to the fact that it is a disease which we may have been and may still be overlooking, and which may be very easily imported here, by those who have been sojourning in southern states.

The case, I wish to report, is that of a lady of 32 who, came to my office less than a week ago and recited a list of symptoms, which she had gradually accumulated over a period of four months and which sounded like a recital from a treatise upon the symptomatology of hookworm disease, and wound up by presenting herself for inspection and examination to see if I could tell her "what in the world made her feel so bad when she was not sick and was holding her own so well in flesh." Upon inspection she presented a sallow complexion, a milky white sclera, pale tongue and mucous surfaces, a patch of dermatitis upon the tibial and external surfaces of the right leg, and probably as large as my hand. Also flabby muscles, and several tender points, as well as a protuberant abdomen, which latter symptom she claimed was a condition which had only existed for a few weeks. Her chance remark that she had not felt well since returning from a trip through the southern states last autumn," brought our attention up with a jerk, and as I had myself been through the states of Miss., La., and Tenn. as well as up the river by steamer last September, and had had the good fortune to see several cases of hookworm disease, through the courtesy of the physicians in charge, and also of attending one medical meeting where I saw not only several of the cases, but a microscopic demonstration of the ova and of the hookworms themselves, that diagnosis at once suggested itself, and after preparing the patient by fasting and purging, she was given powdered thymol and salts in the order mentioned. And a careful microscopic examination of the bowel dejections assisted by Dr. Phares revealed a multitude of the ova and entirely too many worms themselves for the patients peace of mind. Another startling thing revealed was that what had appeared to be a very satisfactory state of bodily flesh, was in reality a strikingly advanced state of emaciation which had been masked by a general edema, of a very deceiving character. The face, which had appeared plump at first nspection, was now hollow and ghastly, and emaciated to a frightful degree, and all out of proportion to the amount of bowel discharge, and purging. She seemed in twenty-four hours to have lost 20 pounds and had really lost 5.

Hoping that this will catch the eye of the profession at large and cause a careful scrunity of all patients who hail from the south or who have traveled through that region, who happen to come with suspicious symptoms, and result in the diagnosis and prompt relief of every one, and prevent the regrets which I happen to feel as I remember one young lady hailing from Tenn., whom I saw last summer and sent away, while myself still unsatisfied as to

diagnosis, and whom I would love mightily to recall, now, in the light of this recent experience, and re-examine,.

I am yours sincerely,

K. B. FORD.

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Obituary.

George C. Purdue, M. D., Medical College of Evansville, Ind., 1880; a member of the American Medical Association; the Southwestern Surgical Association and Western Surgical and Gynecological Association; surgeon-in-chief at the Wichita, Kan., Hospital died in New York City , April 12, from peritonitis, following an operation for acute appendicitis, aged 56.

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James M. Barbour, M. D. Homeopathic Hospital College, Cleveland, 187–; of Pittsburg, Kan; a veteran of the Civil War; died in the Osawatomie State Hospital, April 6, from organic heart disease, aged 73.

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John Meiners, M. D. Kansas City (Mo.) Hahnemann Medical College, 1905; of Tipton, Kan; died at that place, January 9, from intestinal obstruction, aged 31.

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Abraham Grove Magill, M. D. American Medical College, Eclectic, Cincinnati, 1854; died at his home in Silver Lake, Kan., February 27, from heart disease, complicating disease of the kidney, aged 76.

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CLINICAL NOTES

Glycerine dressings covered by rubber tissue, are frequently more useful than the ordinary wet dressings in reducing inflammatory swelling and 'n relieving pain.—American Journal Surgery.

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At least one good surgeon (Treves) never permits an intra-abdominal pedicle ligature to include undivided peritoneum. He always exposes the vessel itself, except in omental pedicles.—American Journal of Surgery.

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We are once more given the perennial advice of applying a mixture of four drachms of zinc oxide and one of phenic acid to the pint of lime water for the eruption of poison ivy. We have found that the application of ethylic alcohol is cleaner, less visible and brings about just as good results. It is true that it burns slightly when first applied, or rather it imparts a burning sensation,

but this is merely temporary, and is fully counter balanced by the cessation of the subjective symptoms inherent to the disease.—American Journal Dermatology.

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The tab of skin that is left at the lower part of the prepuce, after a circumcision, is usually due to the fact that the physician, who operated, was afraid of cutting the artery of the frenum. It is good practice to do so and not leave a memorandum of a job that has been poorly or inefficiently done. He who sees many cases, is often called upon to remove this "elephant's ear."—American Journal Dermatology.

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Abuse of Hypodermic Medication During Operation.—H. G. Wetherill, Denver (Journal A. M. A., May 7), condemns the practice of hypodermic stimulation during and after operations, and states that anesthetists and surgeons who have had the largest experience seldom use it. The best results and the lowest mortality of the busiest surgeons of to-day are attained by the simplest methods. Careful diagnosis and accurate estimates of the ability of the patient to undergo the operation are made. He is prepared with care, the anesthetic is wisely chosen and skilfully given, he is operated on without avoidable exposures, delays or hemorrhage, he is returned to a warm bed, placed in a favorable position, watched by a competent nurse and let alone. If he is very restless and really suffering from shock or severe pain as he emerges from the anesthetic he may be given a moderate dose of morphin and atropin but, notwithstanding its stimulating and soothing effect, he is ordinarily better off if it can be omitted. No strychnin, no spartein no digitalin, no nitroglycerin—no whip and spur for a tired and jaded and played out or overworked heart, if such he has—no piling up of new poison to impose additional burdens on the organs of elimination. Let him alone. Keep him warm and very quiet. Give him all the water he can absorb by the avenue of choice; mouth, rectum, under the skin, or within the peritoneal cavity, and as few drugs as possible.

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Local Anesthesia in Ano-rectal Surgery.—Dr. S. G. Gant (Ky. Med. Jour. Jan. 1, 1910) states that after extensive experiments with various local anesthetics and with sterile water, he has come to the conclusion that the most reliable agents to employ in operations about the anus and rectum are a one-eighth per cent. eucaine solution and sterile water or a normal salt solution. The ano-rectal diseases operable under local anesthesia are hemorr-

hoids, fistulæ, simple prolapsus ani, fissures, anal papillæ, ulcers, polypi located near the anus, rectal abscesses, hypertrophied rectal valves, stricture within the anal canal, some congential malformations of the anus, sacral fistulæ and dermoids, condylomata and lipomata of the lower rectum and buttocks, incipient anal epitheliomata, peri-anal cysts, foreign bodies located beneath the skin and mucosa near the anus, division or divulsion of the sphincter for the relief of constipation, fecal impaction and sphincteralgia. Colostomy, appendicostomy, colopexy, cecostomy and celiotomy have been also performed under local anesthesia by the author for the relief of intestinal obstruction, constipation and chronic invagination, for exploratory purposes, and to improve the condition of patients suffering from rectal procidentia and the various types of ulcerative colitis causing chronic diarrohea.—International Journal Surgery.

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RENAL TUBERCULOSIS.—The importance of the early diagnosis of renal tuberculosis is emphasized by Dean Loree, Ann Arbor (Journal A. M. A., April 16), who points out that the disease in its beginning presents bladder rather than kidney symptoms, hence the error of the earlier writers in deeming the bladder to be primarily infected. Recent investigation, aided by the urethral catheter, has proved the hemitogenous origin of the disease. Patients presenting themselves to the physician with frequent painful or burning micturition without definite origin should excite suspicion of tuberculosis, and a very rigid physical examination should be made of the lungs as well as of the genitals. Early symptoms in the kidney region are of less value, as slight pain and enlargement may mean only hypertrophy of the sound side. Great diagnostic importance is attributed by Fenwick of London to a thickened ureter in the female if combined with a displaced and contracted urethral orifice. Much can be learned by the use of the cystoscope, and the localization of the disease is only possible with the ureteral catheterization. The use of these instruments, however, is something difficult on account of the disease. At the onset of the irritation the bladder mucosa is much inflamed and congested, rendering the use of the instruments difficult until the condition has been altered by irrigation treatment. When the bladder involvement is superficial, it shows a strong tendency to heal on removal of the kidney focus, but the more persistent conditions call for more heroic treatment. He discontinued the use of carboilc acid on account of the pain produced but has recently employed it again in smaller amounts, allowing it to remain

in the bladder but a few seconds and washing out the excess with a 30 per cent. alcohol solution. A tolerance can thus be secured and the full amount used later. The positive diagnosis of renal tuberculosis requires competent bacteriologic and chemical examination. In most expert hands the bacilli can be demonstrated in from 75 to 80 per cent. Not less than three ounces of urine should be sent to the laboratory, after having been drawn with proper aseptic precautions. Bacteriuria without kidney lesions is possible, so it, alone, without pus, is of little diagnostic significance. Tuberculin for diagnosis has little value compared with laboratory methods. With rare exceptions unilateral tuberculosis with the other kidney functionating calls for nephrectomy but many patients are too far-advanced and nephrotomy, or the opening of an abscess is a life-saving measure. He does not agree with the notion that the kidney always must be removed and he thinks that with the means for early diagnosis more general operative cases will be less frequent. A case treated successfully without operation is reported.

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The Treatment of Gastric Ulcer.—Von Leube, (Deutsche Medical Woch.) describes his routine treatment of gastric ulcer: (1) Absolute rest in bed for from one to two weeks. This relieves the pain and promotes the healing of the ulcer. After the tenth day the patient should lie down two hours after dinner. (2) One glass of tepid Carlsbad water twice a day. (3) The application of hot stupes to the epigastrium, renewed every fifteen minutes during the daytime. At night a wet linen cloth is substituted. (4) A light diet of high nutritive value and easy digestibility.

In the severe hemorrhagic cases von Leube puts the patients to bed, gives one dose of 30 drops of a 1 to 1000 solution of adrenalin and an injection of morphine to quiet peristalsis, and complete abstinence of food by the mouth. He substitutes an ice-bag for the hot stupes and gives bismuth. When the stool shows no longer the presence of blood and there are no other signs of hemorrhage he cautiously commences a liquid diet. He replies to Lenhartz that while eggs and milk may bind the acid, at the same time they cause the secretion of more acid and increase the peristalic movements of the stomach. He does not give iron because he says ulcer patients do not tolerate it well. Von Leube adds that a study of 25 cases on the liquid diet for two weeks did not show any marked reduction in the hemoglobin. He warns against the use of laxatives. By this routine method he has reduced the mortality from 13 per cent, in his first published series of cases to 0.5 per cent, in the present series. He reports in all 627 cases treated by this method.—American Medicine.